HISTORICAL MEMORANDA

RELATIVE TO THE

DISCOVERY OF ETHERIZATION,

AND TO THE CONNECTION WITH IT OF THE LATE

DR. WILLIAM T. G. MORTON.

PREPARED BY THE COMMITTEE OF CITIZENS OF BOSTON CHOSEN TO RAISE A MORTON TESTIMONIAL FUND.

BOSTON:
PRINTED BY RAND, AVERY, & FRYE, 3 CORNHILL.
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INVENTOR AND REVEALER
OF
ANÆSTHETIC INHALATION.

BEFORE WHOM,
IN ALL TIME,
SURGERY WAS AGONY.

BY WHOM,
PAIN IN SURGERY
WAS AVERTED AND ANNULLED.

SINCE WHOM,
SCIENCE HAS CONTROLLED PAIN.

Inscription on Dr. Morton's Monument at Mount Auburn.

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MEMORANDA.

OF the many, who, in every age, had sought the means of annihilating pain, a few had nearly attained success, but failed on the very threshold of discovery, leaving valuable hints and suggestions in publications and private discussions. Brodie and other physiologists had experimented with ether. Pereira and other chemists knew something of its properties. Students attending lectures were in the habit of inhaling it. Pereira had prescribed it as an antidote to the effects of inhaling chlorine gas. It was known that it would produce unconsciousness and some degree of insensibility. But no one as yet had successfully generalized; no one had proved by experiment its extraordinary powers; the certainty, and, what was most essential, the safety, of its action. No one was able to give unquestionable assurance that the breathing of ether sufficient to annihilate pain would not annihilate life itself. Sir Benjamin Brodie possibly would have made the discovery, had not his experiments with ether proved fatal to his Guinea pigs.

Horace Wells, with nitrous-oxide gas, was seeking to relieve or annul pain in dental operations; but, often failing, became disappointed and disheartened, and left the course to his former friend and associate, Dr. Morton.

It was Morton, who, with unexampled pertinacity and hardihood, instituted experiments with ether, verifying them on animals, on himself, on patients, at his own rooms, and afterward in capital operations at the Massachusetts General Hospital. These experiments might have caused death, and brought upon him its legal penalties. At this risk he became the practical discoverer of etherization, giving to the world positive assurance of its certainty and safety, and "rendering useful to mankind what had before been a curious and perhaps a hopeless speculation."

Dr. William T. G. Morton was born Aug. 9, 1819; and died July 15, 1868. He practised dentistry in Boston, having attended Medical Lectures at the Harvard Medical School. He was impulsive and enterprising. During the spring and summer of 1846, he occupied himself in the search for something to prevent pain in dental operations.

For months, he seemed to have this one great object in view. For this purpose he studied on the subject, consulting practical chemists in regard to the properties of ether, and conversing with philosophical-instrument makers as to the best method of administering gases by inhalation. He, however, purposely avoided stating exactly what his experiments were, and, on some occasions, even feigned ignorance of the nature of the articles he was experimenting with; fearing he might be robbed of the legitimate reward of his long toil.

At length, having made arrangements for the purpose with Drs. John C. Warren, George Hayward, and Henry J. Bigelow, and their colleagues, he was permitted to etherize two patients at the Massachusetts General Hospital,

about to undergo operations, — Oct. 16 and 17, 1846. On those occasions, and at all other times during the subsequent few weeks in which the discovery was forcing itself upon the knowledge of the world, he was the only person known in connection with this new agent. The new term, "anæsthesia," then first used in medicine, was applied to the result of his experiments.

The medical profession, as a body, would have scouted the idea that it was possible, without danger to life, to cause a person to inhale ether to the extent advised by Dr. Morton. Death would have been thought inevitable. Even Dr. C. T. Jackson, a rival claimant, said that Morton would "kill somebody by it," * and appeared at the hospital two months after the first operations, "with a bag containing oxygen-gas under his arm," telling Dr. Townsend, the operating surgeon, that "they should always have oxygen-gas prepared and ready in case of accident in the employment of ether." † It should be remembered, however, that Dr. Jackson was not familiar with surgical operations under ether, and might well feel that there was cause for anxiety. After the complete triumph of Dr. Morton was acknowledged, Dr. Jackson declared, that, five years before, he himself had "inferred" that such success would be the result (very much in the same manner as when, in 1837, he claimed to have invented the magnetic telegraph and to have communicated his invention to Prof. Morse in 1832). ‡ Mere "inferences,"

* See Caleb Eddy's statement, p. 296, Cong. Rep., 32d Cong., 2d Sess., Jan. 21, 1853.

† See Dr. Townsend's statement, p. 358, Cong. Rep., 32d Cong., 2d Sess., Jan. 21, 1853.

‡ Morse's Patent. Full Exposure of Dr. Charles T. Jackson's Pretensions to the Invention of the American Electro-Magnetic Telegraph. By Amos Kendall; with Preface by Samuel F. B. Morse.

if not supported by ample evidence, were of no value in establishing so important a discovery. If Dr. Jackson knew all about the capabilities of ether to relieve human suffering, why did he allow humanity to remain in pain for five years, and this, too, when, by proclaiming his discovery, he was sure of immortal fame? Dr. Jackson's "inferences" were, in fact, nothing more than suggestions such as Sir Humphry Davy made a half-century ago about nitrous-oxide gas. Dr. Morton, on the contrary, in coming forward, as he did, with the medical profession generally opposed to him, assumed a fearful moral and legal responsibility.

The report of the operations under ether spread everywhere with great rapidity. Able surgeons throughout the civilized world used etherization with entire success, and proclaimed their belief in it, as one of the greatest boons ever vouchsafed to man. The name of Morton may, therefore, most properly be placed "in all time" by the side of the names of Jenner, Morse, Stephenson, and of other great benefactors of our race.

It is unnecessary to review all the evidence in regard to Dr. Morton's claim; but the Committee cannot refrain from reproducing the concise, and, as it seems to them, unanswerable statement, made in a letter to Hon. R. C. Winthrop, Jan. 26, 1848, by Dr. H. J. Bigelow, who, more than any other, was conversant with the facts.*

Boston, Jan. 26, 1848.

Dear Sir, — I believe most fully that Dr. Morton deserves any reward Congress may grant to the discoverer; because, although many

American Journal Dental Science, p. 24, 1849.

people have *thought* that a man could be intoxicated beyond the reach of pain, Dr. Morton alone *proved* this *previous possibility* to be a *certainty*, and *safe*. A diagram will make the matter plainer than words : —

Before October, 1846.	Discovery in *Oct.* 1846.	*After* October, 1846.
Who made the suggestion? Here is the only ground of dispute.	Consecutive experiments by Morton.	*Morton alone* took the responsibility of danger, and proved that ether was, 1st, *certain;* 2d, *safe*.

The two last points, — viz., the consecutive experiments and their confirmation, — which *nobody disputes to Morton*, make him, in my eyes, the discoverer. The only doubt is, who made the *suggestion*. *To me, this is of no importance.* Dr. Jackson says, "I did. I told Mr. Morton to try the experiment; and, unless I had so told him, he would never have tried it." Dr. Jackson adds, "I first tried ether when I was suffering from chlorine, in 1842. I afterwards recommended it to Mr. Peabody." But Dr. Morton confutes even these positions. He says to Dr. Jackson, 1st, "I show by the evidence of Dr. Gould, Mr. Wightman, and Mr. Metcalf, that I was experimenting with ether before the interview in which you claim to have brought it to my notice." 2d, "In 1842, you only rediscovered what was before clearly in print in Pereira's Materia Medica." 3d, "You claim to have told Mr. Peabody what you *knew* of ether. Now, you could not *know* it. You have stated all your grounds of deduction, and the widest inference you could draw from them is a *suspicion* of the properties of ether; and a *suspicion* in science, an *unconfirmed theory*, amounts to nothing. Finally, what you claim to have discovered in 1842 you kept to yourself during four years. Do you expect the world to believe you knew its value? Do you expect it to reward you for letting people suffer during that length of time? Besides, the suggestion of anæsthetic agencies occurred to Davy; especially was it followed out, though unsuccessfully, by Horace Wells, who, disgusted with failure, abandoned his attempts." These and others had hypotheses as well as Dr. Jackson. Morton alone proved the hypothesis. Without Morton, there is

no evidence that the world would have known ether till the present day. I believe this covers the ground of important argument and difference in the pamphlets.

Your friend and servant, HENRY J. BIGELOW.

Alluding to the arguments of other claimants, Dr. Bigelow says, —

"Their fallacy grows out of a misapprehension of the nature of the discovery in question, the precise character of which should be borne steadily in mind in testing any claim, whether in the past or future, to have made it. Its essential points should characterize every perfect remedial agent. Ether was the first anæsthetic proved to be *inevitable* as to the individual, *complete* in its effect, and *safe*. The same test may be applied to vaccination, for example. Inoculation by small-pox, although protective, had proved to be dangerous. But the discovery of Jenner, while practically *inevitable* as to the individual, and *complete* as a protection, was *safe*. Jenner was a discoverer; and his claim is invalidated neither by any previous mode of vaccination, nor will it be by any future one. So the discovery of modern anæsthesia is invalidated neither by the previous use of opium, alcohol, and nitrous oxide, nor by the subsequent use of chloroform.

Nitrous-oxide in the hands of Horace Wells sometimes succeeded; but it also failed, as in his final experiment in Boston. The reason of his failures has never been told; but it was this: he used too small a volume of gas, and its virtue was soon exhausted. He employed a common gas-bag, instead of the large reservoir now successfully in use, so capacious that the inspired and effete gas may be exhaled as waste. In consequence of this error in his method, as inconsiderable as those of many other inventors who have, like him, narrowly missed great results, his anæsthesia was uncertain, and could not be relied on to occur when it was wanted. Its failure became notorious; and Wells actually abandoned his experiments for nearly a year. Then, indeed, when the complete success of ether showed the disheartened experimenter how nearly he had attained to a great discovery, and by how

little he had missed it, his attention was again aroused, and he engaged in new experiments : but it was now too late ; the discovery had been made.

Modern dental anæsthesia by nitrous-oxide must not be confounded with the uncertain process of Horace Wells. The modern method by the large gasometer is more successful ; but this was not the method employed by him. His gas-bag was liable to be inadequate, asphyxiating, uncertain. It was liable to fail.

If etherization had not been discovered, what, at this moment, would the nitrous-oxide anæsthesia by the small gas-bag of Horace Wells be practically worth to patient or to surgeon ?

Horace Wells was not the discoverer of modern anæsthesia, *inevitable, complete, and safe*, — "*a triple discovery*," involving three conditions ; a notable failure to fulfil one or the other of which, as had happened in all previous experiments, would render it of little value. These three conditions were first fulfilled with ether. The discovery of modern anæsthesia was made with ether. No previous anæsthetic had accomplished such results. No subsequent anæsthetic has effected more.

Those who remember how the civilized world at once exulted in the great news from Boston, and how for months, and even years, the question of the discovery of modern anæsthesia was supposed to lie exclusively and indisputably between Morton and Jackson, its two rival and contemporaneous claimants in that city, will examine closely any tardy pretensions based upon a previous imperfect discovery like that of Horace Wells, or upon any past or future modifications or alleged improvements, by chloroform or other agent, of the original and first wholly successful process of anæsthesia.*

HENRY J. BIGELOW.

The following documents were written either immediately after the operations at the hospital, or at a later period. They are submitted to the candid judgment of the community. Some of them prove the truth of the main facts above

* Boston Med. and Surg. Journal, May 26, 1870.

stated; while others give the opinions of honorable and able men upon these facts, and the inferences that they are disposed to draw from them.

DEAR SIR, — I write, at the request of Dr. J. C. Warren, to invite you to be present on Friday morning, at ten o'clock, at the Hospital, and to administer, to a patient who is then to be operated upon, the preparation which you have invented to diminish the sensibility to pain. Yours respectfully,

C. F. HEYWOOD,

House Surgeon to Mass. Gen. Hospital.

DR. MORTON, Tremont Row, Oct. 14, 1846.

BOSTON, Oct. 17, 1846.

I hereby certify that I have twice seen the administration of Dr. Morton's application for the prevention of pain; that it had a decided effect in preventing the sufferings of the patients during operation; and that no bad consequence resulted. J. C. WARREN.

On Saturday last, at the Hospital, I removed a tumor from the arm of a patient who had immediately before inhaled something prepared by Dr. Morton of this city. The operation lasted seven minutes: the patient gave no indication of suffering. She assured me afterwards that she did not suffer; nor has she, to the present time, experienced any inconvenience from the inhalation. GEO. HAYWARD.

TUESDAY, Oct. 20, 1846.

I certify that I assisted in the administration of Dr. Morton's preparation to two patients, operated upon by Drs. Warren and Hayward, at the Massachusetts General Hospital, on the 16th and 17th of October; that under its influence both these individuals submitted to operations lasting from five to ten minutes, without suffering; and that they speedily recovered from its effects. C. F. HEYWOOD,

House Surgeon Mass. Gen. Hospital.

OCT. 22, 1846.

Two months after the first operation, and when the fame of the great discovery had spread in every civilized land, Dr. Warren, who performed the first operation under ether, and who, it may be presumed, knew from whom he had received the first information of its value in surgery, deliberately gave the following certificate into the hands of Dr. Morton. He did this, also, when he must have known that other claimants had arisen to demand the honor of the discovery; and of these claimants Dr. Jackson was his personal friend, professional associate, and a near neighbor, and therefore the one above all others to whom, as a well-known scientific man, he would naturally have felt inclined to give that honor, rather than to a comparative stranger, if facts would have allowed him to do so. The original letter, with other documents bearing on this subject, is now in the possession of the Massachusetts Historical Society.

BOSTON, Jan. 6, 1847.

I hereby declare and certify to the best of my knowledge and recollection, that I never heard of the use of sulphuric-ether, by inhalation, as a means of preventing the pain of surgical operations, until it was suggested by Dr. William T. G. Morton in the latter part of October, 1846. JOHN C. WARREN,

Prof. of Anatomy, and Surgeon of Mass. Gen. Hospital.

More than a year after the first operations were performed, the late Sir James Y. Simpson sent his pamphlet on chloroform to Dr. Morton; and after speaking of ether, and of its use as an anæsthetic, he adds, —

"Of course, the great thought is that of producing insensibility to pain; and for that the world is, I think, indebted to you.

"With very great esteem for you, allow me to subscribe myself

"Yours very faithfully, "J. Y. SIMPSON.

"EDINBURGH, 19 November, 1847."

In asserting Dr. Morton's pre-eminent claims to this great discovery, we freely admit that he conversed with many persons, and consulted many books ; that he had suggestions from the conversations of the living, and from the writings of the dead ; that he knew of the experiments of Horace Wells. We know and admit, that, long after Dr. Morton had experimented on himself and animals with ether, he conversed with Dr. Jackson : we admit, too, that he was secret in some of his movements, though not more so than any one, who, being on the eve of a great discovery, intends to apply for a patent.

But we do claim, that, up to the final experiments at the Hospital, no one, either in or out of the profession, had ever dared, in public or private, to saturate a man with ether with the intention of producing insensibility to pain, and still less with the idea of urging a surgeon to perform a long and painful operation upon the unconscious patient. Success in such a bold and apparently very hazardous act was needed. The world ignored, and justly ignored, all mere "inferences." Dr. Morton alone is spoken of in the above letters as the administrator and revealer of anæsthetics ; and to him, therefore, in the minds of the Committee, the honor of the discovery is due.

It is believed by many in this community, that the memory of so great a benefactor of his race deserves the respect and gratitude of all mankind ; especially of all those men and women who have ever seen in the cases of their friends, or have themselves felt, the blessed influences of ether in the relief of acutest suffering.

It is thought, moreover, that the family of such a man

should have long since received a proper testimonial from the country; whereas it is well known that the United-States Government freely used ether on every battle-field during the late civil war, without recompensing at all the greatest benefactor of its wounded soldiers.

Dr. Morton was obliged to give up his business, and to spend all his time, and most of his property, in defending his rights; and, finally, life itself was sacrificed in his endeavors to defend his fame as the "inventor and revealer of anæsthetic inhalation."

Dr. Morton died poor; and, knowing that fact, the following gentlemen were appointed by citizens of Boston as a Committee to obtain a proper testimonial for his family: —

J. INGERSOLL BOWDITCH, 28 State Street.
CHARLES G. PUTNAM, M.D., 24 Marlborough Street.
WILLIAM WHITING, 35 Court Street.
HENRY I. BOWDITCH, M.D., 113 Boylston Street.
JOHN J. MAY, 1 Broad Street.
GEORGE HAYWARD, M.D., 3 Walnut Street.
R. M. HODGES, M.D., 53 Mount-Vernon Street.
LUTHER PARKS, M.D., 6 Chestnut Street.
SAMUEL KNEELAND, M.D., Institute of Technology.
JOHN C. WARREN, M.D., 2 Park Street.
FRANCIS MINOT, M.D., Treasurer, at 7 Charles St., Boston.

To these have been added, with the consent of the various parties, the names of the following eminent citizens of New York and Philadelphia: —

S. D. GROSS, M.D., Philadelphia.
J. M. DACOSTA, M.D., 1609 Walnut Street, Philadelphia.
S. WEIR MITCHELL, 1332 Walnut Street, Philadelphia.
E. R. PEASLEE, M.D., 29 Madison Avenue, New York.
WILLARD PARKER, M.D., New York.
S. F. B. MORSE, New York.

FRANCIS MINOT, M.D., 7 Charles Street, Boston, is Treas-

urer of the Committee. All moneys, however small, will be gratefully received by him, or by any one of the Committee.

Rev. James Thurston has consented to act as General Agent for soliciting subscriptions. The Committee commend him and his object to the kind consideration of those upon whom he may call.

APPENDIX.

On page 3 of pamphlet, reference is made to Dr. Wells. The following correspondence passed between him and Dr. Morton only three days after the successful experiments at the Hospital. ~~They~~ It needs no comment.

Boston, Oct. 19, 1846.

Friend Wells. *Dear Sir,* — I write to inform you that I have discovered a preparation, by inhaling which a person is thrown into a sound sleep. The time required to produce sleep is only a few moments, and the time in which persons remain asleep can be regulated at pleasure. While in this state, the severest surgical or dental operations may be performed, the patient not experiencing the slightest pain. I have perfected it, and am now about sending out agents to dispose of the right to use it. I will dispose of a right to an individual to use it in his own practice alone, or for a town, county, or state. My object in writing you is to know if you would not like to visit New York and the other cities, and dispose of rights upon shares. I have used the compound in more than a hundred and sixty cases in extracting teeth; and I have been invited to administer to patients in the Massachusetts General Hospital, and have succeeded in every case.

The professors, Warren and Hayward, have given me certificates to this effect. I have administered it at the Hospital, in the presence of the students and physicians; the room for operations being as full as possible. For further particulars, I will refer you to extracts from the daily journals of this city, which I forward to you.

Respectfully yours,

WM. T. G. MORTON.

HARTFORD, CONN., Oct. 20, 1846.

DR. MORTON. *Dear Sir*, — Your letter dated yesterday is just received; and I hasten to answer it, for I fear you will adopt a method in disposing of your rights which will defeat your object. Before you make any arrangements whatever, I wish to see you. I think I will be in Boston the first of next week, — probably Monday night. If the operation of administering the gas is not attended with too much trouble, and will produce the effect you state, it will undoubtedly be a fortune to you, provided it is rightly managed.

Yours in haste, H. WELLS.

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